

Title: Magnetospheric Multiprobes: MMP/Chemsat

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Short Description: The Multiprobes (MMP) are a set of ejectable, self-contained, limited-lifetime free flyers which are designed to make plasma diagnostic measurements at multiple locations within telemetry range of the Space Station's co-orbiting platform and polar platform. When configured as Chemsats, one or more MMP's will conduct chemical releases as tracers or modifiers of the local plasma and field environment, while diagnostic measurements are made from other MMP's and from the nearby platform. The probes will be battery powered and will have lifetimes of a few days to several weeks. Up to 12 probes would be placed on the co-orbiting platform and the polar platform every six months and two years respectively for use in the campaign mode of operation.

Instrument Characteristics:

- Mass: Carrier and ejection mechanism for each probe:
160 kg; individual probe: 160 kg
- Dimensions: Carrier and ejection mechanism for each probe:
1.1 m diameter; 1.3 m height. Individual probe:
0.9 m diameter; 0.5 m height.
- Power: 1000 Watts on platform
500 Watts on each probe (from self-contained battery)
- Data Rate: 400 kb/s per probe

General Comments:

The MMP system is being developed by Wallops Flight Center. A single-probe Shuttle mission is tentatively scheduled for late 1987 and a four-probe mission for late 1989.

Data routed through Space Station Platforms.

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